

Engelhardt et al.

Serial No.: Not Yet Assigned

(Continuation of S.N. 10/206,031, filed June 6, 2003)

Filed: Herewith

Page 3 [Preliminary Amendment (Accompanying Continuation Application
Under 37 C.F.R. §1.53(b)) --- November 18, 2003]

PLEASE AMEND THIS APPLICATION AS FOLLOWS:

In The Title:

Change the title of the invention to:

-- Protein-nucleic acid conjugate for producing specific nucleic acid -- .

In The Claims:

Please cancel claim 1.

Please add new claims 91-123 as follows:

Claim 1 (Canceled Hereinabove)

Claim 2-90 (Canceled in Continuation Request)

91. (NEW) A conjugate, which when present in a cell, produces a specific nucleic acid, said conjugate comprising a protein-nucleic acid construct that comprises:

- (i) at least one promoter;
- (ii) at least one segment of said specific nucleic acid comprising a sequence coding for a protein; and
- (iii) an RNA polymerase.

92. (NEW) The conjugate of claim 91, wherein said at least one promoter (i) comprises a cognate promoter for said RNA polymerase (iii).

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93. (NEW) The conjugate of claim 91, wherein said protein-nucleic acid construct comprises a double-stranded nucleic acid.

94. (NEW) The conjugate of claim 91, wherein said protein-nucleic acid construct comprises a single-stranded nucleic acid.

95. (NEW) The conjugate of claim 91, wherein said protein-nucleic acid construct comprises a partially single-stranded nucleic acid.

96. (NEW) The conjugate of claim 91, wherein said sequence coding for a protein in said segment (ii) comprises a sequence for said RNA polymerase (iii).

97. (NEW) The conjugate of claim 91, wherein said sequence coding for a protein in said segment (ii) comprises a protein other than said RNA polymerase (iii).

98. (NEW) The conjugate of claim 91, wherein said sequence coding for a protein in said segment (ii) comprises a sequence for said RNA polymerase and a sequence for a protein other than said RNA polymerase.

99. (NEW) The conjugate of claim 91, wherein said sequence coding for a protein in said segment (ii) comprises a sequence for a second RNA polymerase that is different from said RNA polymerase (iii).

100. (NEW) The conjugate of claim 99, further comprising a second promoter for said second RNA polymerase.

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101. (NEW) The conjugate of claim 91, wherein said RNA polymerase (iii) comprises T7, T3, SP6 or a combination thereof.

102. (NEW) The conjugate of claim 100, further comprising a sequence for a protein, wherein said protein is transcribed from said second promoter.

103. (NEW) The conjugate of claim 102, wherein said protein comprises DNA polymerase or reverse transcriptase.

104. (NEW) The conjugate of claim 103, wherein said protein-nucleic acid construct comprises at least one chemically modified nucleotide or nucleotide analog.

105. (NEW) The conjugate of claim 91, wherein said RNA polymerase (iii) is linked to said protein-nucleic acid construct by means of a covalent linkage.

106. (NEW) The conjugate of claim 91, wherein said RNA polymerase (iii) is linked to said protein-nucleic acid construct by means of base-pairing of complementary nucleic acid sequences.

107. (NEW) The conjugate of claim 91, wherein said RNA polymerase (iii) is linked to said nucleic acid construct by means of a nucleic acid binding protein.

108. (NEW) The conjugate of claim 107, wherein said nucleic acid binding protein comprises a repressor protein bound to an enzyme.

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109. (NEW) The conjugate of claim 91, wherein said RNA polymerase (iii) is linked to said protein-nucleic acid construct by means of ligand receptor binding.

110. (NEW) A conjugate, which when present in a cell, produces a specific nucleic acid, said conjugate comprising a protein-nucleic acid construct that comprises:

- (i) at least one promoter;
- (ii) at least one segment of said specific nucleic acid comprising a template for transcription; and
- (iii) an RNA polymerase.

111. (NEW) The conjugate of claim 110, wherein said specific nucleic acid being produced comprises sense RNA, antisense RNA transcripts or a combination of both.

112. (NEW) The conjugate of claim 111, wherein said sense RNA codes for a protein.

113. (NEW) The conjugate of claim 112, wherein said protein coding sense RNA codes for said RNA polymerase (iii).

114. (NEW) The conjugate of claim 112, wherein said protein coding sense RNA codes for a protein other than said RNA polymerase (iii).

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115. (NEW) The conjugate of claim 112, wherein said protein coding sense RNA codes for said RNA polymerase (iii) and a protein other than said RNA polymerase (iii).

116. (NEW) The conjugate of claim 112, wherein said protein coding sense RNA comprises a sequence for a second RNA polymerase that is different from said RNA polymerase (iii).

117. (NEW) The conjugate of claim 116, further comprising a second promoter for said second RNA polymerase.

118. (NEW) The conjugate of claim 117, further comprising a sequence for a protein, wherein said protein is transcribed from said second promoter.

119. (NEW) A conjugate, which when present in a cell, produces a specific nucleic acid, said conjugate comprising a protein-nucleic acid construct that comprises:

- (i) at least one promoter;
- (ii) at least one single-stranded segment comprising a sequence complementary to a primer present in said cell; and
- (iii) a polymerase.

120. (NEW) The conjugate of claim 119, wherein said polymerase comprises an RNA polymerase or a DNA polymerase.

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121. (NEW) The conjugate of claim 119, wherein said polymerase comprises DNA polymerase or reverse transcriptase.

122. (NEW) The conjugate of claim 119, wherein said primer comprises tRNA.

123. (NEW) The conjugate of claim 119, wherein said sequence codes for a protein.

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